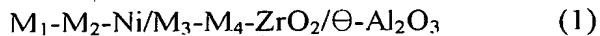


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**ABSTRACT**

The present invention relates to a modified  $\Theta\text{-Al}_2\text{O}_3$ -supported nickel reforming catalyst and its use for producing synthesis gas from natural gas, more specifically to a nickel reforming catalyst expressed by the following formula 1, having improved coke resistance, high-temperature catalysis stability and catalytic activity, which is prepared by coating nickel or mixture of nickel and cocatalyst ( $M_1\text{-}M_2\text{-Ni}$ ) on a  $\Theta\text{-Al}_2\text{O}_3$  support modified with metal ( $M_3\text{-}M_4\text{-ZrO}_2/\Theta\text{-Al}_2\text{O}_3$ ), and its use for producing synthesis gas from natural gas through steam reforming, oxygen reforming or steam-oxygen reforming,



wherein  $M_1$  is an alkali metal; each of  $M_2$  and  $M_3$  is an alkaline earth metal; and  $M_4$  is a III B element or a lanthanide.